

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-6 (cancel).

Claim 7 (presently amended) ~~The apparatus of Claim 4, further comprising~~ An apparatus for providing gases for calibration, comprising:

_____ at least one source that generates at least one chosen impurity in a known range of nanograms per minute within given temperature ranges and at a predetermined flow rate;

_____ a supply of gas that is at least substantially pure;

_____ a supply of purge gas;

_____ a main gas conduit;

_____ a communication between said at least one impurity source and at least a portion of said main conduit;

_____ a housing having an interior, wherein said impurity source and at least a portion of said main conduit is located within the interior of said housing;

_____ a means for selectively raising and/or lowering the temperature of the housing interior between about 60° F and about 130° F, wherein the means for selectively raising and/or lowering the temperature comprises a temperature controller that controls the temperature within said housing and a semi-conductor heating and cooling device; and

_____ a valve that connects the supply of pure gas and the supply of purge gas to the main conduit,

wherein:

_____ said pure gas flows through said main conduit and passes by said communication,

the impurity from said source diffuses into said pure gas that flows
past said communication thereby producing a calibration gas; and
the purge gas and the pure gas are introduced into the main conduit
at different times.

Claim 8 (previously presented) The apparatus of Claim 7, further comprising a first gas conduit a second gas conduit, and a valve connecting the first and second conduits to said main conduit, wherein said pure gas is introduced into first said conduit when calibration is desired and wherein purge gas can be introduced into said second conduit when calibration gas is not needed, and wherein said valve determines which gas will flow into said main conduit.

Claims 9-23 (cancel).

Claim 24 (presently amended) An apparatus for providing gases for calibration,
comprising:

at least one source that generates at least one chosen impurity in a known
range of nanograms per minute within given temperature ranges and at a
predetermined flow rate;

a supply of gas that is at least substantially pure;

a main gas conduit;

a communication between said at least one impurity source and at least a
portion of said main conduit;

a housing having an interior, wherein said impurity source and at least a
portion of said main conduit is located within the interior of said housing;

a means for selectively raising and/or lowering the temperature of the
housing interior between about 60° F and about 130° F;

a temperature controller that controls the temperature within said housing;

a pressure indicator and a back pressure regulator that monitors the
pressure of gas in said main conduit and regulates the flow path of said gas;

a means to vent gas from said main conduit if the pressure of the calibration gas drops below about 35 psi to about 40 psi; and

wherein said pure gas flows through said main conduit and passes by said communication, and wherein the impurity from said source diffuses into said pure gas that flows past said communication thereby producing a calibration gas.

Claims 25-38 (cancel).

Claim 39 (presently amended) ~~The method of Claim 37, A method of producing gases for calibration, comprising:~~

providing a source for generating a chosen impurity at a rate having a known value range of nanograms per minute within given temperature ranges and a predetermined flow rate;

supplying at least one gas conduit;

providing an insulated housing;

placing the impurity source and at least a portion of said at least one gas conduit within said housing;

controlling the temperature within said housing at between about 60°F and about 130°F during standby or when calibration is desired;

providing a communication between the said conduit and said impurity source; and

providing a supply of pure gas;

making a calibration gas by and allowing the impurity source to diffuse into said pure gas that flows past said communication, thereby mixing with said pure gas;

using the calibration gas to calibrate an instrument;

providing a supply of purge gas;

introducing purge gas into said at least one conduit, wherein purge gas flows through said conduit during standby and causes the impurity source to diffuse into said purge gas that flows past said communication; and

changing the purge gas to pure gas when a calibration gas is desired.

Claims 40-46 (cancel).

Claim 47 (previously presented) The method of Claim 39, wherein the purge gas and the pure gas are introduced into the same conduit at different times.

Claim 48 (cancel).

Claim 49 (presently amended) The method of Claim 37, further comprising the steps of:

- providing a first conduit, a second conduit, and a valve connecting said first and second conduits to said at least one conduit, wherein said at least one conduit is the main gas conduit;
- providing a supply of purge gas;
- connecting said supply of pure gas to said first conduit;
- connecting said supply of purge gas to said second conduit;
- running purge gas through said second conduit during standby and opening said valve so that purge gas is introduced into the main conduit and flows past said communication; and
- changing said valve to stop the flow of purge gas into said main conduit and allowing pure gas to flow through said first conduit into said main conduit when calibration is desired.

Claims 50-54 (cancel).

Claim 55 (presently amended) ~~The system of Claim 54, further comprising:~~
A system for providing a more accurate calibration of instruments for testing gases, comprising:

at least one source that generates at least one chosen impurity in a known range of nanograms per minute at a known temperature range and at a predetermined flow rate

a supply of pure gas;

a main gas conduit;

a housing having an interior that holds the source of said at least one purity and at least a portion of said main conduit;

a means for selectively raising and/or lowering the temperature of the housing interior between about 60° F and 130° F, wherein the temperature of said source and said at least a portion of said main conduit is selectively raised and/or lowered between about 60° F and about 130° F;

a flow controller that allows gas to flow through said main conduit between about 0.5 liters/minute and about 2 liters/minute;

a communication between said impurity source and said main conduit, wherein pure gas flows through the main conduit and past said communication wherein said impurity source diffuses into the pure gas and mixes with said pure gas to form a calibration gas;

an instrument that is capable of being calibrated;

a connection between said instrument and said main conduit, wherein said calibration gas is fed to the instrument that analyzes said gas; and wherein said instrument is calibrated based said analysis and the known value of said source

a supply of purge gas;

a valve, wherein said valve determines whether said pure and/or purge flows into said main gas conduit; and

wherein purge gas is run through main conduit during standby and pure gas is run through said main conduit when calibration is desired.

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a supply of purge gas, wherein purge gas flows through said second gas conduit, and wherein pure gas flows through said first gas conduit;

wherein said pure gas is introduced into first said conduit when calibration is desired and wherein purge gas can be introduced into said second conduit when calibration gas is not needed, wherein either pure gas or purge gas can be introduced into the main conduit to flow past said communication; and

wherein said valve is changed to stop the flow of purge gas into said main conduit and pure gas is allowed to flow through said first conduit into said main conduit when calibration is desired.

Claims 57 - 69 (cancel).

Claim 56 (previously presented) ~~The system of Claim 54, further comprising:~~ A system for providing a more accurate calibration of instruments for testing gases, comprising:

at least one source that generates at least one chosen impurity in a known range of nanograms per minute at a known temperature range and at a predetermined flow rate

a supply of pure gas;

a main gas conduit;

a housing having an interior that holds the source of said at least one purity and at least a portion of said main conduit;

a means for selectively raising and/or lowering the temperature of the housing interior between about 60° F and 130° F, wherein the temperature of said source and said at least a portion of said main conduit is selectively raised and/or lowered between about 60° F and about 130° F;

a flow controller that allows gas to flow through said main conduit between about 0.5 liters/minute and about 2 liters/minute;

a communication between said impurity source and said main conduit, wherein pure gas flows through the main conduit and past said communication wherein said impurity source diffuses into the pure gas and mixes with said pure gas to form a calibration gas;

an instrument that is capable of being calibrated;

a connection between said instrument and said main conduit, wherein said calibration gas is fed to the instrument that analyzes said gas;

wherein said instrument is calibrated based on said analysis and the known value of said source;

a first gas conduit, a second gas conduit, and a valve connecting the first and second conduits to said main conduit, wherein said valve determines which gas will flow into said main conduit;

a supply of purge gas, wherein purge gas flows through said second gas conduit, and wherein pure gas flows through said first gas conduit;